

REMARKS

Prior to further examination and in consideration of the Office Action mailed January 16, 2004, applicants respectfully request entry of the amendments made in the Submission. Claims 1-7 were pending in the application. Claims 1-4 and 7 have been amended, new claims 8-11 have been newly added and no claims have been canceled. Therefore, claims 1-11 are pending in the application and are submitted for consideration.

This amendment changes and adds claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

In the Office Action, claims 1 and 7 are rejected under 35 U.S.C. §102(b) as being anticipated by U. S. Pat. No. 5,038,880 ("Matsuoka"). Claims 2-6 are rejected under 35 U.S.C. §103(a) as being unpatentable over Matsuoka in view of U.S. Pat. No. 5,778,331 ("Leising"). Applicants respectfully traverse these rejections for at least the following reasons.

In general, the claimed invention relates to an improvement for adapting to a situation that a set vehicle speed is excessively lowered by continuously turning on the coast switch.

More specifically, the claimed invention provides a solution to a problem caused by excessively switching on the coast switch. That is, when the coast switch is continuously and excessively switched on such that the set speed is excessively lowered from a target set speed, it is necessary to increase the lowered set speed to the target set speed by switching on an accelerate switch. Since a shift-down transmission control is started in reply to the lowering of the set speed, the transmission connected to the conventional vehicle speed control system has already executed a shift down operation at the moment when the set speed is increased. Accordingly, in such a situation, the vehicle speed control system outputs an acceleration command to the controlled system. As a result, the vehicle in the shift-down condition is accelerated by increasing the throttle opening. This operation excessively increases the engine rotation speed and excessively generate noises.

To solve this problem, the claimed invention maintains or fixes a gear ratio of an automatic transmission at a gear ratio set at a moment before decreasing a set vehicle speed,

during the time period when the coast switch is continuously and excessively switched on. See page 23, lines 4-27 of the specification that describe this feature and its advantages.

With this claimed feature, recited in each of the independent claims 1, 2, and 7, even when coast switch 30 is continuously switched on, the command gear ratio (for example, DRATIO (t)) is maintained at a value set just before the switching on of coast switch 30 until coast switch 30 is switched off.

Accordingly, when the set speed of the vehicle speed control system is decreased by operating the coast switch 30 and is then increased by operating accelerate switch 40, the shift down is prohibited during this period. Therefore, even if the throttle opening is opened to accelerate the vehicle for the purpose of returning the significantly decreased vehicle speed to the set speed, the engine rotation speed is not dramatically increased under such a transmission condition. This prevents the engine from generating excessive noise. These recited features in the independent claims are not disclosed or suggested by the applied prior art.

Specifically, Matsuoka discloses "If the judgment in step S121 is yes (when the vehicle is in the ascent running zone II), a shift down operation is not made even when the coast switch is on because the vehicle is in an ascending condition", and "On the other hand, if the judgment in step S121 is no, a shift down operation is made for decreasing the vehicle speed (S122)" in column 7, line 67 to column 8, line 5. This coast shift control shown in Fig. 8 is executed when the judgment in step S42 in Fig. 4 is yes, that is, when the coast switch 19 is turned on (switched on).

That is, when the coast switch is put in a turned on state, the shift down operation is performed or not according to the road condition. More specifically, even when the coast switch is switched on, the gear ratio is not kept fixed. Therefore, Matsuoka does not disclose or suggest fixing the gear ratio during when the coast switch is continuously and excessively switched on.

Furthermore, since the deficiency of Matsuoka is not cured by any of the other applied references, the pending independent claims 1, 2, and 7 are patentable over the applied prior art.

The dependent claims are also patentable for at least the same reasons as the independent claims on which they ultimately depend. In addition, they recite additional patentable features when considered as a whole. For example, new claims 9-11 recite features that are not disclosed or suggested by the applied prior art.

In view of the foregoing amendments and remarks, applicants respectfully submit that the application is now in condition for allowance. An early notice to this effect is earnestly solicited. If there are any questions regarding the application, or if an examiner's amendment would facilitate the allowance of one or more of the claims, the examiner is courteously invited to contact the undersigned attorney at the local telephone number below.

Should additional fees be necessary in connection with the filing of this paper, or if a petition for extension of time is required for timely acceptance of same, the Commissioner is hereby authorized to charge deposit account No. 19-0741 for any such fees; and applicants hereby petition for any needed extension of time.

Respectfully submitted,

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